

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,026,484 B2
APPLICATION NO. : 10/080926
DATED : April 11, 2006
INVENTOR(S) : Lin Zhi et al.

Page 1 of 16

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE TITLE PAGES:

Item [56] References Cited, in OTHER PUBLICATIONS:

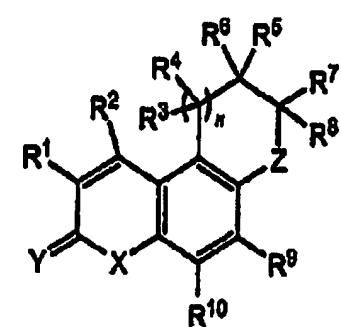
in Yudin, please replace "Geterotsikicheskikh" with --Geterotsiklicheskikh--
in the first Yamashkin et al., please replace "Chemistry.of" with --Chemistry of--
in Edwards, J., et al., please replace "(1999)" with --(1998)--
in Boyer, M., please replace

"<http://www.australianprescriber.com/magazines/vol19no1/ap19-1-11.htm>(accessed on Jan. 28, 2005." with --<http://www.australianprescriber.com/magazines/vol19no1/ap19-1-11.htm> (accessed on Jan. 28, 2005).--

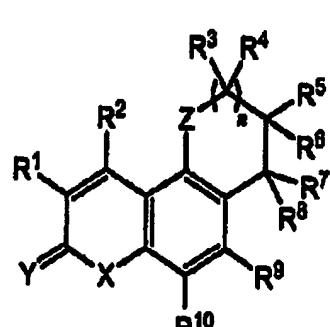
in Castillo, P., please replace "o-dihydroxyaromatic" with --o-dihydroxyaromatic--

IN THE SPECIFICATION:

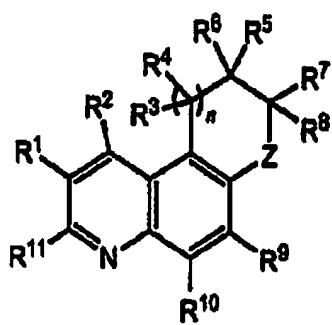
In column 2, beginning at line 7, please replace formulas I-VIII with:



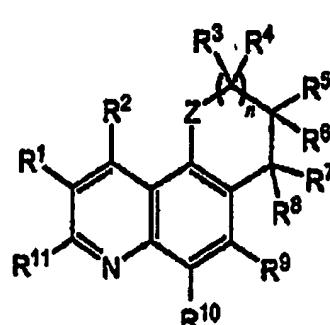
(I)
OR



(II)
OR



(III)
OR



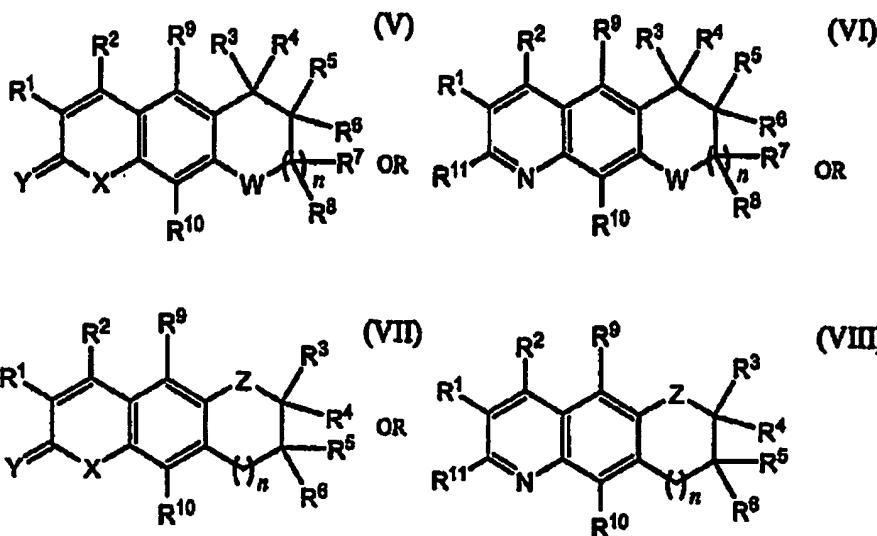
(IV)
OR

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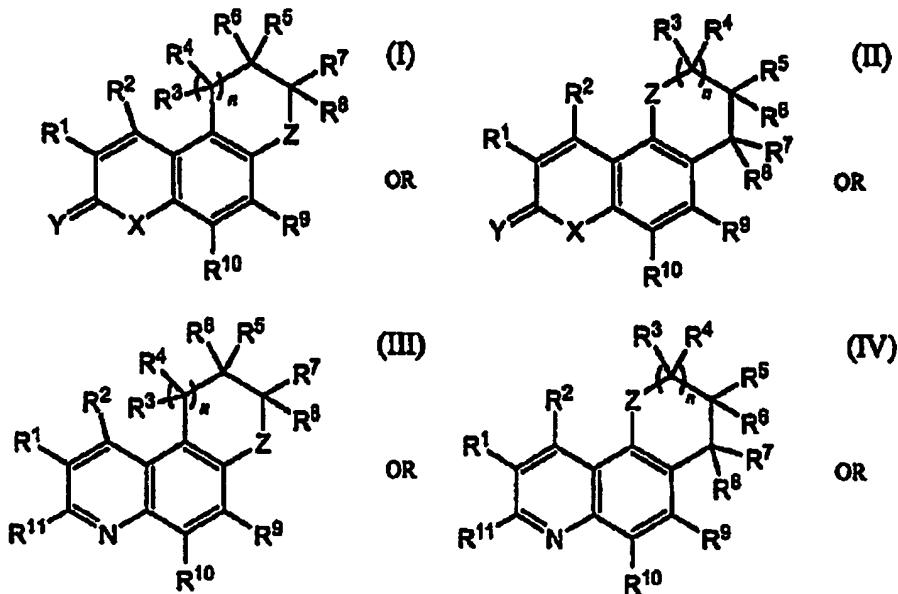
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:



in column 7, beginning at line 15, please replace formulas I-VIII with:

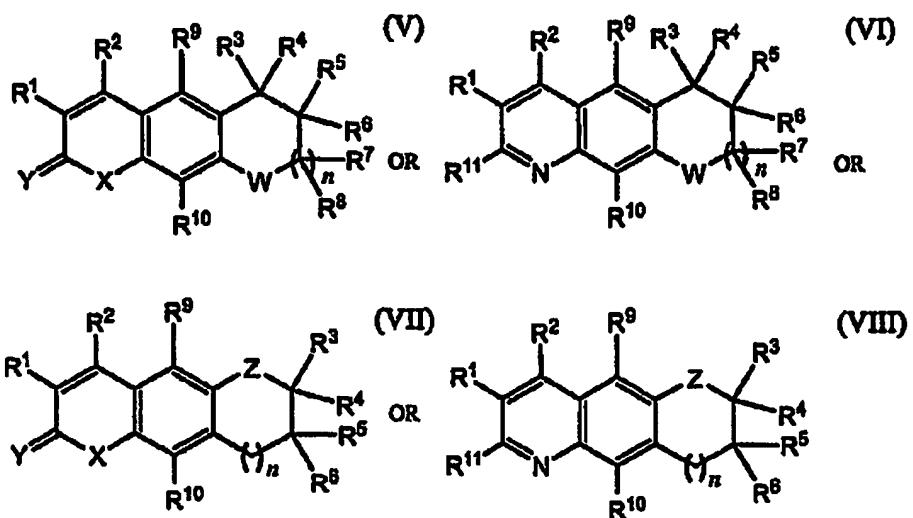


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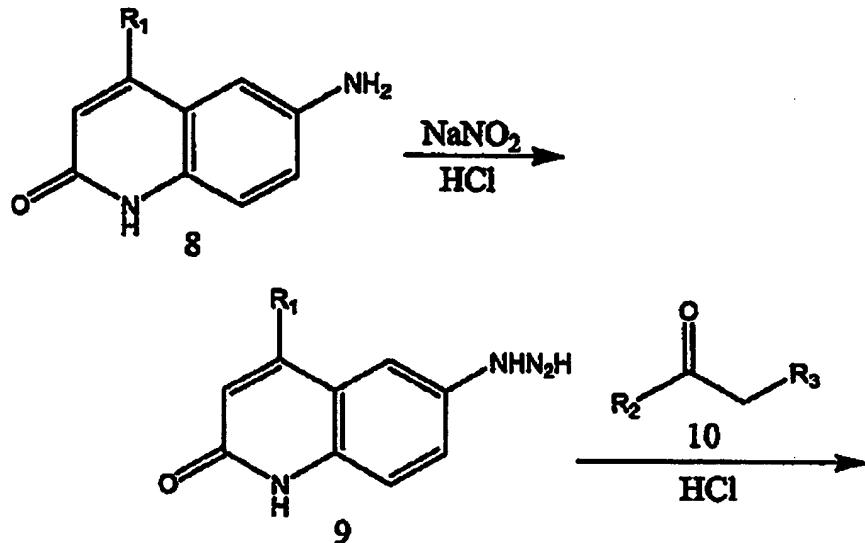
PATENT NO. : 7,026,484 B2
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:



in column 24, lines 53-67, please replace the structures in Scheme II with:



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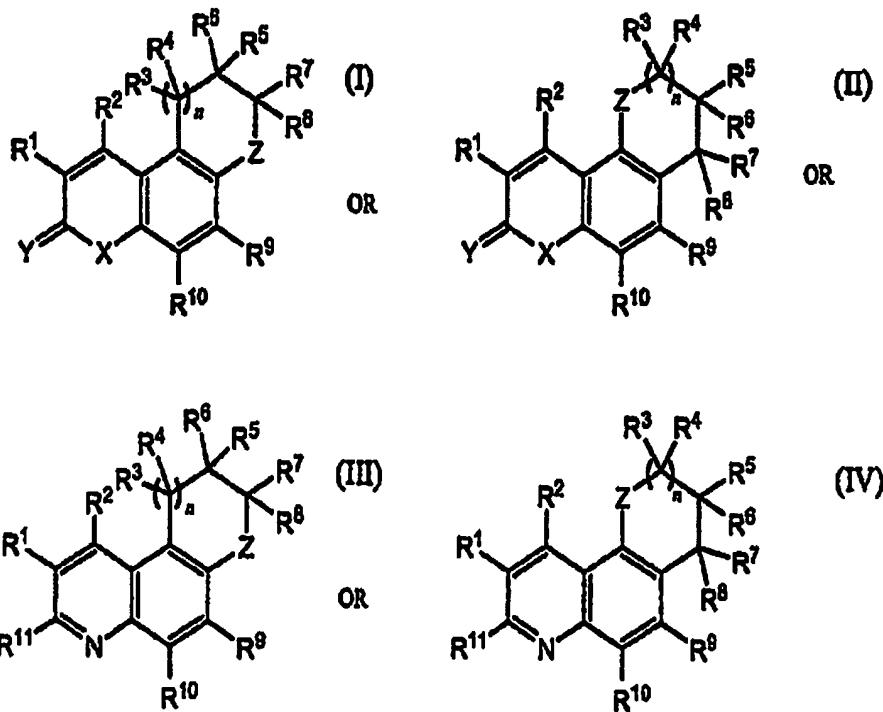
in column 57, lines 4-6, please replace
 “(Compound 177, Structure 26 of Scheme IV, where R₂=methyl, R₃=2-hydroxyethyl”
 with --(Compound 177, Structure 26 of Scheme IV, where R₂=methyl, R₃=2-hydroxyethyl--

in column 70, line 21, please replace “chloronation” with --chlorination--

IN THE CLAIMS:

Please replace Claims 1, 4, 26, 28, 29, 30, 32, 33, 34, 42, 43, 50, 52, 53, and 60 with the following Claims:

1. A compound of the formula:



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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

wherein:

R¹ is selected from among hydrogen, F, Cl, Br, I, NO₂, OR¹², SR¹², SOR¹², SO₂R¹², NR¹²R¹², substituted C₁-C₈ alkyl, C₁-C₈ haloalkyl and C₁-C₈ heteroalkyl, wherein the haloalkyl and heteroalkyl groups are optionally substituted;

R² is selected from among F, Cl, Br, I, CF₃, CHF₂, CH₂F, CF₂Cl, CN, CF₂OR¹², CH₂OR¹², OR¹², SR¹², SOR¹², SO₂R¹², NR¹²R¹³, substituted C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkenyl and C₂-C₈ alkynyl, wherein the haloalkyl, heteroalkyl, alkenyl and alkynyl groups are optionally substituted;

R³ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R⁴ is selected from among hydrogen F, Cl, Br, I, OR¹², NR¹²R¹³, SR¹², SOR¹², SO₂R¹², C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkynyl, C₂-C₈ alkenyl, aryl, heteroaryl and arylalkyl wherein the alkyl, haloalkyl, heteroalkyl, alkynyl, alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted;

R⁵ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R⁶ is selected from among hydrogen F, Cl, Br, I, OR¹², NR¹²R¹³, SR¹², SOR¹², SO₂R¹², C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkynyl, C₂-C₈ alkenyl, aryl, heteroaryl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl, alkynyl, alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted;

R⁷ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl, and heteroalkyl groups are optionally substituted;

R⁸ is selected from among hydrogen F, Cl, Br, I, OR¹², NR¹²R¹³, SR¹², SOR¹², SO₂R¹², C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkynyl, C₂-C₈ alkenyl, aryl, heteroaryl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl, alkynyl, alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted; or

R³ and R⁵ taken together form a bond; or

R⁵ and R⁷ taken together form a bond; or

R⁴ and R⁶ taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted; or

R⁶ and R⁸ taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted;

R⁹ and R¹⁰ each independently is selected from among hydrogen, F, Cl, Br, I, CN, OR¹², NR¹²R¹³, C_m(R¹²)_{2m}OR¹³, SR¹², SOR¹², SO₂R¹², NR¹²C(O)R¹³, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl and arylalkyl groups are optionally substituted;

R¹¹ is selected from F, Br, Cl, I, CN, OR¹⁴, NR¹⁴R¹³, and SR¹⁴;

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R¹² and R¹³ each independently is selected from the group of hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkenyl, C₂-C₈ alkynyl, heteroaryl and aryl wherein the alkyl, haloalkyl, heteroalkyl, alkenyl, alkynyl, heteroaryl and aryl groups are optionally substituted;

R¹⁴ is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, aryl, heteroaryl, C(O)R¹⁵, CO₂R¹⁵ and C(O)NR¹⁵R¹⁶, wherein the alkyl, haloalkyl, heteroalkyl, aryl and heteroaryl groups are optionally substituted;

R¹⁵ and R¹⁶ each independently is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, wherin the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

W is O or S;

X is N{R¹⁴};

Y is seleted from among O, S, N{R¹²} and NO{R¹²};

Z is N{R¹²};

n is 0; and

m is 0 or 1;

or a pharmaceutically acceptable salt thereof.

4. A compound according to claim 1, wherein R² is selected from among F, Cl, Br, CF₃, CF₂Cl, CF₂H, CFH₂, substituted C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₁-C₄ heteroalkyl, C₂-C₄ alkenyl and C₂-C₄ alkynyl, wherein the haloalkyl, heteroalkyl, alkenyl and alkynyl groups are optionally substituted.

26. A compound according to claim 1, wherein:

R⁶ and R⁸ each indepentently is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ heteroalkyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, heteroaryl and aryl groups are optionally substituted; or

R⁶ and R⁸ taken together form a three to eight membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted.

28. A compound according to claim 1, wherein:

R¹ is selected from among hydrogen, F, Cl, Br, I, substituted C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the haloalkyl and heteroalkyl groups are optionally substituted;

R² is selected from among F, Cl, Br, CF₃, CF₂Cl, CF₂H, CFH₂, substituted C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein haloalkyl and heteroalkyl groups are optionally substituted; and

R³ and R⁴ each independently is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted.

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29. A compound according to claim 28, wherein

R⁵ through R⁸ each independently is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted; or

R⁶ and R⁸ taken together form a four to six membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted.

30. A compound according to claim 29, wherein:

R⁹ and R¹⁰ each independently is selected from among hydrogen, F, Cl, Br, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R¹² is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ heteroalkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, alkenyl, alkynyl, heteroaryl and aryl groups are optionally substituted; and

R¹⁴ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, C(O)R¹⁵, CO₂R¹⁵ and C(O)NR¹⁵R¹⁶, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted.

32. A compound according to claim 1, wherein said compound is selected from among:

6-Methyl-4-trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

5-Isopropyl-6-methyl-4-trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

5-Allyl-6-methyl-4-trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

5-(4-Methoxyphenyl)-6-methyl-4-trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

5-(3-Trifluoromethylphenyl)-6-methyl-4-trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

4-Trifluoromethyl-5,6,7,8-tetrahydrocyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

4-Trifluoromethyl-5,6,7,8,9,10-hexahydrocycloheptano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-trifluoroethyl-4-

trifluoromethylcyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-ethyl-4-

trifluoromethylcyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-5,6-Dihydro-5,6-*cis*-dimethyl-7-(2,2,2-trifluoroethyl)-4-

trifluoromethyl-7H-pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-propyl-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(3-furanyl methyl)-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(3-thiophenemethyl)-4-

trifluoromethylcyclopentano[g]pyrrolo[3,2-f]quinolin-2(1H)-one;

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(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2-methylpropyl)-4-trifluoromethylcyclopentano[g]-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-chlorodifluoro-ethyl)-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-cyclopropylmethyl-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2-dimethoxyethyl)-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,8,8a(*cis*)-Hexahydro-9-(2,2,2-trifluoroethyl)-4-trifluoromethyl-9*H*-cyclohexano[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,8,9,9a(*cis*),10-Octahydro-10-(2,2,2-trifluoroethyl)-4-trifluoromethylcycloheptano[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-6-ethyl-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-butyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-nitrophenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-dimethylaminophenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-methoxyphenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-methyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(3-trifluoromethylphenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-fluorophenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-phenyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo-3,2-*f*-quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-methoxyphenyl)-6-methyl-4-trifluoromethyl-7*H*-pyrrolo-[3,2-*f*]-quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-(4-methoxyphenyl)-6-methyl-7-(2,2-dimethoxyethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-isopropyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-ethyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo-[3,2-*f*]-quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-ethyl-6-propyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo-[3,2-*f*]-quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-(2-ethoxycarbonylethyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;

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5,6-Dimethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
6-Methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
6-Ethyl-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Ethyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Ethyl-6-propyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5,6,7,8-Tetrahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano[*g*]-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
8-Trifluoroethyl-4-trifluoromethyl-6,8-dihydrocyclopentano[*g*]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
9-Trifluoroethyl-trifluoromethyl-9*H*-benzo[*g*]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-(3-Trifluoromethylphenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-(4-Fluorophenyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-(2-Ethoxycarbonylethyl)-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Hydroxymethyl-6-ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Methyl-6-(1-hydroxyethyl)-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Methyl-6-acetyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Formyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Acetoxyethyl-6-ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
2-Acetoxy-5-hydroxymethyl-6-ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinoline;
6-Ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Ethoxymethyl-6-ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(+)-6-(1-Methoxyethyl)-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
7-Allyl-6-methyl-4-trifluoromethyl-5*H*-pyrrolo[2,3-*f*]quinolin-2(1*H*)-one;
6-Ethyl-7-methyl-4-trifluoromethyl-5*H*-pyrrolo[2,3-*f*]quinolin-2(1*H*)-one;

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7-(3-Trifluoromethylphenyl)-6-methyl-4-trifluoromethyl-5*H*-pyrrolo[2,3-*f*]quinolin-2(1*H*)-one;
7-(2-Hydroxyethyl)-6-methyl-4-trifluoromethyl-5*H*-pyrrolo[2,3-*f*]quinolin-2(1*H*)-one;
(+)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(-)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-6-hydroxymethyl-4-trifluoromethylpyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-7-ethyl-6-hydroxymethyl-4-trifluoromethylpyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethylpyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
6-Formyl-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one; and
5,6-Dimethyl-7-(2,2-difluorovinyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one.

33. A compound according to claim 1, wherein said compound is selected from the group consisting of:

(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-ethyl-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5,6-*cis*-dimethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-propyl-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-chlorodifluoroethyl)-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-cyclopropylmethyl-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-4c,5,6,7,8,8a(*cis*)-Hexahydro-9-(2,2,2-trifluoroethyl)-4-trifluoromethyl-9*H*-cyclohexan[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-6-ethyl-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-*cis*-Dihydro-5-butyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-ethyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(±)-5,6-Dihydro-5-ethyl-6-propyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;

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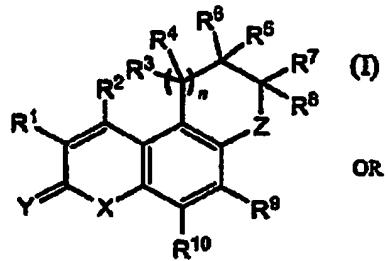
PATENT NO. : 7,026,484 B2
APPLICATION NO. : 10/080926
DATED : April 11, 2006
INVENTOR(S) : Lin Zhi et al.

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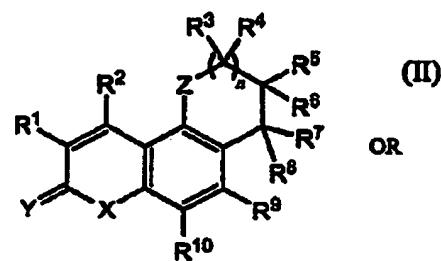
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

(\pm)-5,6-cis-Dihydro-5-methyl-6-ethyl-7-(2,2,2-trifluoroethyl)-7*H*-pyrrolo[3,2-*f*]-quinolin-2(1*H*)-one;
5,6-Dimethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
6-Methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
6-Ethyl-5-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5-Ethyl-6-methyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
5,6,7,8-Tetrahydro-8-trifluoroethyl-4-trifluoromethylcyclopentano[g]pyrrolo[3,2-*f*]-quinolin-2(1*H*)-one;
6-Ethyl-7-(2,2,2-trifluoroethyl)-4-trifluoromethyl-7*H*-pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(+)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano-g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one;
(-)-4c,5,6,7,7a(*cis*),8-Hexahydro-8-(2,2,2-trifluoroethyl)-4-trifluoromethylcyclopentano-[g]pyrrolo[3,2-*f*]quinolin-2(1*H*)-one.

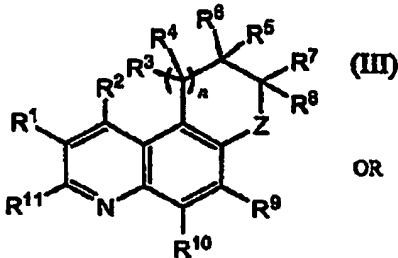
34. A pharmaceutical composition, comprising:
a pharmaceutically acceptable carrier; and
a compound of formula:



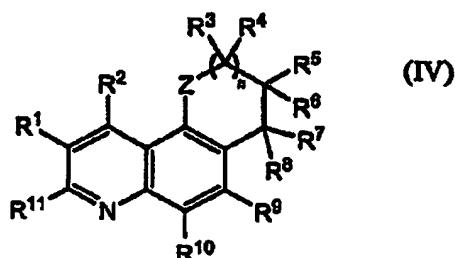
OR



OR



OR



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CERTIFICATE OF CORRECTION

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INVENTOR(S) : Lin Zhi et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

wherein:

R^1 is selected from among hydrogen, F, Cl, Br, I, NO_2 , OR^{12} , SR^{12} , SOR^{12} , SO_2R^{12} , $\text{NR}^{12}\text{R}^{13}$, $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl and $\text{C}_1\text{-C}_8$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^2 is selected from among F, Cl, Br, I, CF_3 , CHF_2 , CH_2F , CF_2Cl , CN, $\text{CF}_2\text{OR}^{12}$, $\text{CH}_2\text{OR}^{12}$, OR^{12} , SR^{12} , SOR^{12} , SO_2R^{12} , $\text{NR}^{12}\text{R}^{13}$, substituted $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl, $\text{C}_2\text{-C}_8$ alkenyl and $\text{C}_2\text{-C}_8$ alkynyl, wherein the haloalkyl, heteroalkyl, alkenyl and alkynyl groups are optionally substituted;

R^3 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^4 is selected from among hydrogen, F, Cl, Br, I, OR^{12} , $\text{NR}^{12}\text{R}^{13}$, SR^{12} , SOR^{12} , SO_2R^{12} , $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl, $\text{C}_2\text{-C}_8$ alkynyl, $\text{C}_2\text{-C}_8$ alkenyl, aryl, heteroaryl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl, alkynyl, alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted;

R^5 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^6 is selected from among hydrogen, F, Cl, Br, I, OR^{12} , $\text{NR}^{12}\text{R}^{13}$, SR^{12} , SOR^{12} , SO_2R^{12} , $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl, $\text{C}_2\text{-C}_8$ alkynyl, $\text{C}_2\text{-C}_8$ alkenyl, aryl, heteroaryl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl, alkynyl, alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted;

R^7 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^8 is selected from among hydrogen, F, Cl, Br, I, OR^{12} , $\text{NR}^{12}\text{R}^{13}$, SR^{12} , SOR^{12} , SO_2R^{12} , $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl, $\text{C}_2\text{-C}_8$ alkynyl, $\text{C}_2\text{-C}_8$ alkenyl, aryl, heteroaryl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl, alkynyl alkenyl, aryl, heteroaryl and arylalkyl groups are optionally substituted; or

R^3 and R^8 taken together form a bond; or

R^5 and R^7 taken together form a bond; or

R^4 and R^6 taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted; or

R^6 and R^8 taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted;

R^9 and R^{10} each independently is selected from among hydrogen, F, Cl, Br, I, CN, OR^{12} , $\text{NR}^{12}\text{R}^{13}$, $\text{C}_m(\text{R}^{12})_{2m}\text{OR}^{13}$, SR^{12} , SOR^{12} , SO_2R^{12} , $\text{NR}^{12}\text{C(O)R}^{13}$, $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl and arylalkyl groups are optionally substituted;

R^{11} is selected from among hydrogen, F, Br, Cl, I, CN, OR^{14} , $\text{NR}^{14}\text{R}^{13}$ and SR^{14} ;

R^{12} and R^{13} each independently is selected from among hydrogen, $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl, $\text{C}_1\text{-C}_8$ heteroalkyl, $\text{C}_2\text{-C}_8$ alkenyl, $\text{C}_2\text{-C}_8$ alkynyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, alkenyl, alkynyl, heteroaryl and aryl groups are optionally substituted;

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

R^{14} is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, aryl, heteroaryl, C(O)R¹⁵, CO₂R¹⁵ and C(O)NR¹⁵R¹⁶, wherein the alkyl, haloalkyl, heteroalkyl, aryl and heteroaryl groups are optionally substituted;

R^{15} and R^{16} each independently is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl and C₁-C₈ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

W is O or S;

X is N {R¹⁴};

Y is selected from among O, S, N{R¹²} and N{OR¹²};

Z is N{R¹²};

n is 0; and

m is 0 or 1;

or a pharmaceutically acceptable salt thereof.

42. A pharmaceutical composition according to claim 34, wherein R¹¹ is selected from among F, Cl, CN, OR¹⁴, NR¹⁴R¹³ and SR¹⁴.

43. A pharmaceutical composition according to claim 42, wherein R¹¹ is selected from among F, Cl, OR¹⁴, SR¹⁴, NR¹⁴R¹³.

50. A pharmaceutical composition according to claim 49, wherein:

R⁵ through R⁸ each independently is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted; or

R⁶ and R⁸ taken together form a four to six membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted.

52. A pharmaceutical composition according to claim 51 wherein Y is O or S.

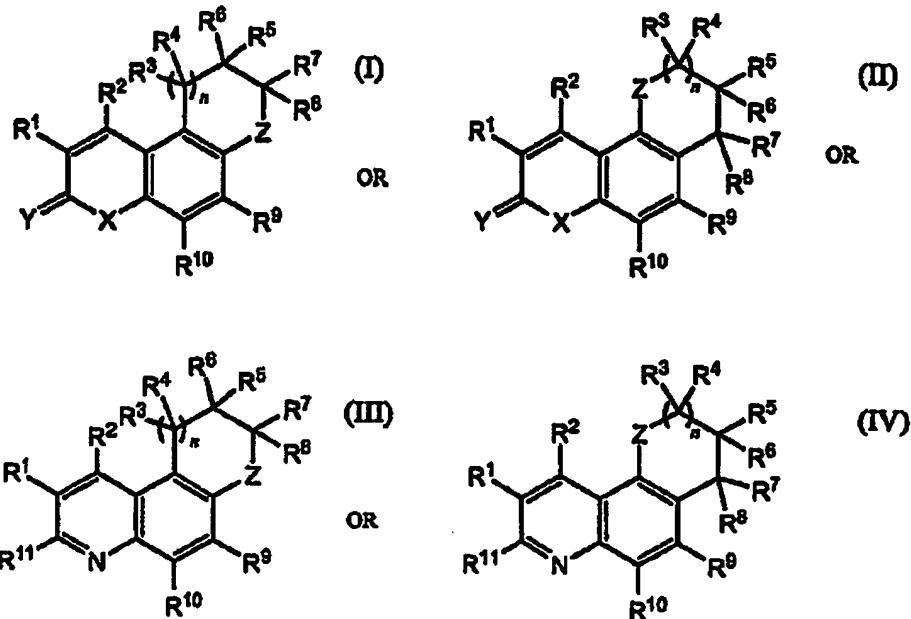
UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

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INVENTOR(S) : Lin Zhi et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

53. A compound of formula:



wherein:

R^1 is selected from among hydrogen, F, Cl, Br, I, NO_2 , OR^{12} , SR^{12} , SOR^{12} , SO_2R^{12} , $\text{NR}^{12}\text{R}^{12}$, $\text{C}_1\text{-C}_8$ alkyl, $\text{C}_1\text{-C}_8$ haloalkyl and $\text{C}_1\text{-C}_8$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^2 is selected from among F, Cl, Br, CF_3 , CHF_2 , CH_2F , CF_2Cl , $\text{CF}_2\text{OR}^{12}$, $\text{CH}_2\text{OR}^{12}$, OR^{12} , SR^{12} , SOR^{12} , SO_2R^{12} , $\text{NR}^{12}\text{R}^{13}$, substituted $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the haloalkyl, and heteroalkyl groups are optionally substituted;

R^3 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^4 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R^5 is selected from among hydrogen, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_1\text{-C}_6$ haloalkyl and $\text{C}_1\text{-C}_6$ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

R⁶ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ heteroalkyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, heteroaryl and aryl groups are optionally substituted;

R⁷ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

R⁸ is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ heteroalkyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, heteroaryl and aryl groups are optionally substituted; or

R³ and R⁵ taken together form a bond; or

R⁵ and R⁷ taken together form a bond; or

R⁴ and R⁶ taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted;

R⁶ and R⁸ taken together form a three- to eight-membered saturated or unsaturated carbocyclic ring, wherein the carbocyclic ring is optionally substituted;

R⁹ and R¹⁰ each independently is selected from among hydrogen, F, Cl, Br, I, CN, OR¹², NR¹²R¹³, C_m(R¹²)_{2m}OR¹³, SR¹², SOR¹², SO₂R¹², NR¹²C(O)R¹³, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl and arylalkyl, wherein the alkyl, haloalkyl, heteroalkyl and arylalkyl groups are optionally substituted;

R¹¹ is selected from among F, Br, Cl, I, CN, OR¹⁴, NR¹⁴R¹³ and SR¹⁴;

R¹² and R¹³ each independently is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, C₂-C₈ alkenyl, C₂-C₈ alkynyl, heteroaryl and aryl, wherein the alkyl, haloalkyl, heteroalkyl, alkenyl, alkynyl, heteroaryl and aryl groups are optionally substituted;

R¹⁴ is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl, C₁-C₈ heteroalkyl, aryl, heteroaryl, C(O)R¹⁵, CO₂R¹⁵ and C(O)NR¹⁵R¹⁶, wherein the alkyl, haloalkyl, heteroalkyl, aryl and heteroaryl groups are optionally substituted;

R¹⁵ and R¹⁶ each independently is selected from among hydrogen, C₁-C₈ alkyl, C₁-C₈ haloalkyl and C₁-C₈ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted;

W is O or S;

X is N {R¹⁴};

Y is selected from among O, S, N{R¹²} and NO{R¹²};

Z is N{R¹²};

n is 0; and

m is 0 or 1;

or a pharmaceutically acceptable salt thereof.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

60. A compound according to claim 34, wherein:

R⁵ and R⁷ each independently is selected from among hydrogen, C₁-C₆ alkyl, C₁-C₆ haloalkyl and C₁-C₆ heteroalkyl, wherein the alkyl, haloalkyl and heteroalkyl groups are optionally substituted; or
R⁵ and R⁷ taken together form a bond.

This certificate supersedes Certificate of Correction issued October 31, 2006.

Signed and Sealed this

Twenty-seventh Day of February, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office